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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/801,456

03/16/2004

Gary R. Lauterbach

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3249

32615

7590

02/18/2009

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EXAMINER

JAKOVAC, RYAN J

ART UNIT

PAPER NUMBER

2445

NOTIFICATION DATE

DELIVERY MODE

02/18/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/801,456	<b>Applicant(s)</b> LAUTERBACH, GARY R.	
	<b>Examiner</b> RYAN J. JAKOVAC	<b>Art Unit</b> 2445	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,10,15,26-31,33 and 35-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7, 10, 15, and 26-31, 33, and 35-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed 12/04/2008 has been entered.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 35, and 37 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

4. Regarding claim 1, claim 1 recites "...wherein the first node is configured to send the request to the second subnet of nodes only when the first subnet of nodes cannot replace the first replicated service." The applicant's specification makes no mention of directing messages to specific subnets (i.e. from a second subnet to a first subnet) based upon limitations imposed by the first subnet. This limitation was not described in the specification in such a way as to

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reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

5. Regarding claim 35, claim 35 recites "wherein the first node is configured to compare the request to replace the service with the entry..." The applicant's specification makes no mention of this comparison or how to perform this comparison. This limitation was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

6. Regarding claim 37, the claim recites "wherein the first application is not vulnerable to the virus." This limitation was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention in order to enable one skilled in the art to be able to make an application invulnerable to a virus.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 1 recites the limitation "the first subnet" and "the second subnet". There is insufficient antecedent basis for this limitation in the claim.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 3-7, 10, 15, and 26-31, 33, and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 2004/0049573 to Olmstead et al (hereinafter Olmstead).

Regarding claim 1, 33, 35, 36, Olmstead teaches a system comprising:

a plurality of nodes located in a single multiprocessor system (Olmstead, Fig. 3-4.); and  
a mesh interconnect connecting the plurality of nodes (Olmstead, Fig. 4, Network connecting nodes 1 and 2.),

wherein a first node selected from the plurality of nodes comprises a first router for interfacing with the plurality of nodes using the mesh interconnect and a first replicated service executing on a first operating system,

wherein a second node selected from the plurality of nodes comprises a second router for interfacing with the plurality of nodes using the mesh interconnect and a second replicated service executing on a second operating system (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service (i.e. route data messages). Paragraph [0032], Nodes broadcast their presence and listen for other nodes (i.e. route data messages). Paragraph [0001], Duplicated data allows an application on node B to overtake the functions of an application on Node A (i.e. the system provides replicated services). Paragraph [0002], Node failures are detected and the service provided is replaced by a backup node (i.e. replicated

service). Paragraph [0021], Message routing and delivery function across nodes utilizing different operating systems.); and

wherein the first node is configured to:

generate a request to replace the first replicated service when the first replicated service is unavailable (Olmstead, [0009-0016], the nodes use short data messages which identify the node as available or unavailable. See also, [0022], heartbeat messages indicate whether a node is available.),

send the request to the plurality of nodes using the mesh interconnect, receive a response to the request from the second node indicating that the second node comprises a replacement for the first replicated service (Olmsted, [0031], messages indicating failure are sent which enable another node to take over for the failed node, [0061], when a failure is detected, a broadcast message is sent describing the failure. Backup cluster manager responds to the failure. [0016], the messaging service provides communications between nodes to notify other nodes about changes and receive state change notifications. See also, [0022]. See [0012-0013] regarding messaging between nodes.), and

route a request for the first replicated service to the second node based on the response (Olmstead, Paragraph [0002], Node failures are detected and the service provided is replaced by a backup node (i.e. replicated service).),

wherein the plurality of nodes comprises a first subset of nodes and a second subset of nodes (Olmstead, fig. 2-4 shows a set of nodes, each node comprising itself in its own subset.), wherein the first node is in the first subset (Olmstead, fig. 2, client or manager.), and the second node is in the second subset (Olmstead, fig. 2, client or manager.), and wherein the first node is

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configured to send the request to the second subnet of nodes only when the first subnet of nodes cannot replace the first replicated service (Olmstead, [0061], messages are sent indicating node failure. [0031], messages indicating failure are sent which enable another node to take over for the failed node.). It would have been obvious to one of ordinary skill in the art at the time of invention to combine multiple nodes in each subset of nodes since this amounts to mere variation in the number of nodes.

Olmstead discloses monitoring nodes for failure (Olmstead, [0031]), sending messages indicative of the failure (Olmstead, [0031, [0057-0061]), and assigning nodes to takeover for the failing node (Olmstead, [0031, [0057-0061]). Olmstead further discloses messaging which provides data messages between nodes allowing them to checkpoint their state, notify other nodes about changes, receive state change notifications (i.e. indicative of a failure), and to receive information as to their roles. This messaging encompasses a request/reply model (Olmstead, [0016].). Olmstead in at least [0031] discloses that a node itself sends data to another node which is indicative of its failure. The node then takes over for the failing node. It would have been obvious to one of ordinary skill at the time of the invention for the node receiving the request and taking over for that node (as indicated in at least [0031]) to respond with a reply.

Regarding claim 3, Olmstead teaches the system of claim 1, wherein the second node comprises a cache indicating that the second replicated service is available (Olmstead, [0016], nodes save a checkpoint of their state.), and wherein the second node is configured to generate the response based on the cache. (Olmstead, [0016-0017], Nodes use the messaging service which encompasses a request/reply model and point-to-point communication. Messages are sent

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to interested applications. Paragraph [0002], Node failures are detected and the service provided is replaced by a backup node .See also, paragraph [0032], Nodes broadcast lists of their policies, their name, and their class. The nodes stores information (i.e. in a cache) about themselves.).

Regarding claim 4, Olmstead teaches the system of claim 1, wherein the first router comprises a lightweight communications protocol (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service. Paragraph [0022], Nodes communicate using UDP.).

Regarding claim 5, Olmstead teaches the system of claim 1, wherein the first router comprises a heavy-weight communications protocol (Olmstead, [0017], TCP/IP protocol.).

Regarding claim 6, Olmstead teaches the system of claim 1, wherein the mesh interconnect provides at least two connection paths from the first node to the second node (Olmstead, Paragraph [0021], Nodes directly communicate. Paragraph [0032-0033], Nodes send a broadcast message to all nodes. Messages are also passed from one node to the other, see paragraph [0013].).

Regarding claim 7, Olmstead teaches the system of claim 1, wherein the first replicated service is a different application than the second replicated service (Olmstead, Paragraph [0016], Various applications are running on the nodes.).



Regarding claim 10, Olmstead teaches the system of claim 9, wherein the first node is configured to send the first request using at least one selected from a group consisting of a broadcast message and a multicast message (Abstract, The distributed messaging system allows the nodes to communicate with one another and monitor each other. The messaging system uses broadcast and multicast messages, see paragraphs [0011-0014], [0017], and [0022]. Paragraph [0002], Node failures are detected (i.e. searched for) and the service provided is replaced by a backup node (i.e. replicated service).).

Regarding claim 15, Olmstead teaches the system of claim 1, wherein the first router and the second router implement a master-less routing policy (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service. Paragraph [0032], Nodes broadcast messages to all the other nodes.).

Regarding claim 26, Olmstead teaches the system of claim 3, wherein the cache comprises a table having entries for each replicated service provided by the second node (Olmstead, [0032], Nodes broadcast lists of their policies. their name, and their class. The node stores information (i.e. in a cache) about itself. Paragraph [0016], Nodes store the state of applications.).

Regarding claims 27, 28, Olmstead teaches the system of claim 1, wherein the first replicated service is unavailable when the first replicated service is busy, and when the first replicated service has failed (Olmstead, see node failure in at least [0002].).

Regarding claim 29, 36, Olmstead teaches the system of claim 28, wherein the first replicated service has failed due to a virus, and wherein the second replicated service is not vulnerable to the virus (Olmstead, Paragraph [0021], Message routing and delivery function across nodes utilizing different operating systems. See also node failure in at least [0002].).

Regarding claim 30, 37, 38, Olmstead teaches the system of claim 28, wherein the first replicated service has failed due to a security hole being exploited by a hacker, and wherein the second replicated service does not include the security hole (Olmstead, Paragraph [0021], Message routing and delivery function across nodes utilizing different operating systems. See also node failure in at least [0002].).

Regarding claim 31, Olmstead teaches the system of claim 1, wherein the first operating system is different than the second operating system (Olmstead, Paragraph [0021], Message routing and delivery function across nodes utilizing different operating systems.).

### ***Response to Arguments***

12. Applicant's arguments with respect to claims 1, 3-7, 10, 15, 26-31, 36-38 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN J. JAKOVAC whose telephone number is (571)270-5003. The examiner can normally be reached on Monday through Friday, 7:30 am to 5:00 pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton B. Burgess can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RJ/

/Larry D Donaghue/

Primary Examiner, Art Unit 2454